CIHR IRSC
Canadian Institutes of Health Research

Fall 2007

Your Health Research Dollars at Work

An Update from the Canadian Institutes of Health Research

President's Message

Health research is the wisest investment any society can make. I'm extremely pleased that the Government of Canada has consistently supported CIHR to ensure Canada and Canadians benefit from such investment.

The launch of CIHR catalyzed a profound transformation to a proactive research agency that funds the complete spectrum of health research. CIHR-supported researchers produce world-class research in areas as diverse as mental health, Aboriginal health, cancer and the health-care system.

This research has delivered fundamental discoveries necessary for the creation of new drugs, treatments and therapies. Through our knowledge translation activities, CIHR has helped ensure that research has had an impact on and uptake into public policy, clinical practice, school policies and programs and the commercialization of new products. CIHR's network of partnerships has dramatically increased the value and impact of the Government of Canada's investments in health research.

We have also developed novel training programs to prepare for the complex scientific and social environment of the 21st century. Highly qualified trainees are key to our future in the global knowledge-based economy. The launch of CIHR's Strategic Training Initiative in Health Research created 90 new research training centres across Canada.

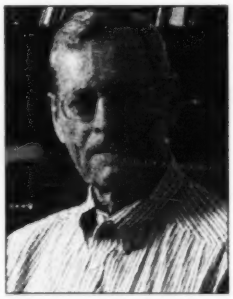
The program has established itself as a model of how to encourage the kind of interdisciplinary research and knowledge translation that are fundamental to new discoveries and innovation.

CIHR has already made a difference to the health of Canadians and will continue to have a profound impact.

Dr. Alan Bernstein, O.C., FRSC, LLD (Hon.)
President, Canadian Institutes of Health Research

NEW CIHR POLICY

Public to Have Free Access to CIHR-Funded Health Research



Dr. James Till: "This open access policy will serve as a model for other funding agencies."

Starting January 1, 2008, CIHR-funded researchers will be required to make their original research articles freely available online within six months of publication, in compliance with a new policy released by CIHR.

In developing its policy, CIHR consulted widely with Canadian researchers and stakeholders in government, research, publishing and the library communities. Dr. James E. Till of Princess Margaret Hospital in Toronto was the Chair of the national task force of leading researchers. "This open access policy will serve as a model for other funding agencies. The policy will leverage taxpayers' investment by accelerating research and by fostering its broader application," said Dr. Till.

"As a publicly funded organization, we have a responsibility to ensure that new advances in health research are available to those who need it and can use it – researchers world-wide, the public and policy-makers," says CIHR President Dr. Alan Bernstein.

Under the policy, which applies to all grants awarded after January 1, 2008, grant recipients who receive whole or partial funding from CIHR must make every effort to ensure that their peer-reviewed research articles are freely available as soon as possible after publication.

Grant recipients are also required to deposit bioinformatics, atomic and molecular coordinate data into the appropriate public database immediately upon publication of research results.

This policy builds on other important initiatives to promote openness and transparency of CIHR-funded research such as the registration of clinical trials and randomized controlled trials.

About the Canadian Institutes of Health Research

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's agency for health research. CIHR's mission is to create new scientific knowledge and to catalyze its translation into improved health, more effective health services and products, and a strengthened Canadian health-care system. Composed of 13 Institutes, CIHR provides leadership and support to more than 11,000 health researchers and trainees across Canada.

Canada

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NATIONAL

Dr. Chartrand Acting President of CIHR

Dr. Pierre Chartrand

On November 17, 2007, Dr. Alan Bernstein will step down as inaugural President of CIHR. The Governing Council of CIHR announced in October that, effective November 18, 2007, Dr. Pierre Chartrand will act as President of CIHR. As Acting President, Dr. Chartrand will be responsible for day-to-day management and direction of CIHR. Dr. Chartrand is currently the Vice-President of Research at CIHR. Prior to this appointment, Dr. Chartrand was CEO of the Institute for Research in Immunology and Cancer and a Full Professor in the Department of Pathology and Cellular Biology in the Faculty of Medicine at the University of Montreal.

PM Launches National Mental Health Commission

Prime Minister Stephen Harper has announced the selection of the Board of Directors for the Mental Health Commission of Canada. CIHR, along with the research and NGO communities, was instrumental in presenting background information to the Senate Committee whose work sparked the creation of the Commission. CIHR is looking forward to working closely with members of the newly created Mental Health Commission.

Dr. Maria Mathews

Tackling Physician Shortages in Newfoundland and Saskatchewan

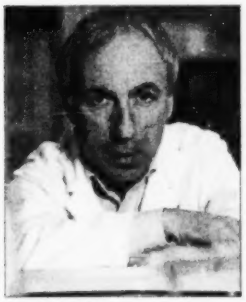
St. John's and Saskatoon: A CIHR-funded study could help policy-makers develop strategies to recruit, retain and repatriate locally trained medical graduates. Led by Dr. Maria Mathews of Memorial University of Newfoundland and Dr. Robert Card of the University of Saskatchewan, the study is examining where alumni are currently working, what influences them to work in their home province and whether these reasons change over the course of their careers. Based on the study's preliminary findings, Dr. Mathews is recommending that Newfoundland increase the number of medical schools seats reserved for students from the province and encourage more students from rural areas to study medicine.

CIHR's *Your Health Research Dollars at Work* is available to Members of Parliament, Senators and policy-makers to communicate the benefits of the Government of Canada's investment in health research. News items can be reproduced for use in householders and other communications materials. Visit CIHR's website to download this issue in electronic form: **www.cihr-irsc.gc.ca**.

CIHR also produces an information kit called *Your Health Research Dollars at Work 2006-2007*, that provides a snapshot of the research results that are making a difference to the health of Canadians, to our health-care system and to our economy. If you would like a copy, please contact Caroline Kay, CIHR's Production Coordinator, at **ckay@cihr-irsc.gc.ca**.

INTERNATIONAL

Canadian Discovery May Offer Insight into Mad Cow Disease


Dr. David Westaway, University of Alberta, led the research team that discovered a new protein linked to mad cow disease.

Alberta, Ontario, Ohio, Montana: CIHR-funded Canadian scientists, in collaboration with U.S. researchers, have discovered a new protein that might offer fresh insights into brain function in mad cow disease, a brain wasting disease that has cost the Canadian economy more than $6 billion. This is the first discovery of a new brain protein since 1985. The study was conducted jointly by the University of Alberta, University of Toronto, Case Western Reserve University in Ohio and the McLaughlin Research Institute in Montana.

In related news, CIHR spin-off Amorfix Life Sciences has begun trading on the Toronto Stock Exchange. The Toronto company is developing blood tests for a variant of Creutzfeldt-Jacob disease (the human form of mad cow disease) and Alzheimer's disease, and a therapy for amyotrophic lateral sclerosis, or Lou Gehrig's disease.

Breastfeeding No Guarantee against Allergies

Dr. Michael Kramer

Canada, Belarus: Breastfeeding does not protect children against developing asthma or allergies, concludes a major CIHR-funded trial led by Dr. Michael Kramer, Scientific Director of CIHR's Institute of Human Development, Child and Youth Health and a researcher at Montreal Children's Hospital (McGill University). "The results of our trial underline the importance of seeking other explanations for the recent epidemic of allergy and asthma," he says. The Promotion of the Breastfeeding Intervention Trial (PROBIT), carried out at 31 Belarussian maternity hospitals and their affiliated polyclinics, revisited 13,889 children who had participated in an earlier study on breastfeeding when they reached 6.5 years old.

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WESTERN CANADA

Researchers Develop Vaccine for Deadly Intestinal Parasite

Calgary: Dr. Kris Chadee, a CIHR-funded researcher at the University of Calgary, and his team have developed a vaccine to prevent infection by *Entamoeba histolytica*, a parasite that kills more than 100,000 people each year worldwide. The vaccine blocks infection by preventing the parasite from attaching to the lining of the intestine. The researchers tested the vaccine on gerbils and found that it provided 100% protection against the parasite. In the future, this finding may lead to the development of a vaccine for humans.

CIHR Boosts Canada's Capacity for Treating Skin Disease

Vancouver: A new generation of doctors and scientists is being trained at the University of British Columbia to combat a national shortage of skin-disease specialists. Launched with $1.8 million in funding from CIHR, the new national Skin Research Training Centre will significantly boost Canada's ability to study and treat psoriasis and other skin diseases, by offering new training opportunities to study skin inflammation, immunology and repair.

Drug to Treat Psychiatric Disorders Moves Closer to Market

Dr. Yu Tian Wang

Vancouver: Dr. Yu Tian Wang is developing a new generation of drugs that would be the first significant change in decades to medication to treat brain disorders such as addiction, schizophrenia, stroke and Alzheimer's disease. CIHR provided critical funding that is helping the University of British Columbia researcher further test the proof of principle – a precursor to clinical trials and eventual commercialization of new drugs. Dr. Wang's research team recently discovered a way for medications to target only those areas of the brain that need to be repaired, minimizing the side effects found in existing medications used to treat psychiatric disorders and neurodegeneration. UBC has also spun off a new company, Stratford Pharmaceuticals, to commercialize the discovery.

New Test Could Lead to Better, Faster Cancer Treatment

Photo Credit: CMC Microsystems

Drs. Linda Pilarski and Chris Backhouse

Edmonton: Medical experts and engineers from the University of Alberta have teamed up to create a low-cost diagnostic test that will allow doctors to quickly determine which chemotherapy will work best for a patient. Dr. Chris Backhouse, a Natural Sciences and Engineering Research Council-funded engineer, and CIHR-funded cancer scientist Dr. Linda Pilarski developed a miniature lab-on-a-chip that can perform fluorescent in situ hybridization (FISH) on a handheld diagnostic device. FISH is a complex test that detects mutations in chromosomes for a number of different types of cancers. The FISH test can be done in less than a day with a 10-fold higher rate of processing and a reduction in costs from hundreds to tens of dollars.

Battling Mercury, Arsenic Poisoning with Synchrotron X-rays

Photo Credit: Michael Robin, University of Saskatchewan

Drs. Graham George and Ingrid Pickering

Saskatoon: A CIHR-funded husband-and-wife research team at the University of Saskatchewan has launched an aggressive attack on mercury poisoning. For their weapons, Drs. Graham George and Ingrid Pickering are using state-of-the-art synchrotron spectroscopy at the $174-million federally funded Canadian Light Source to unravel the molecular mystery underlying mercury's toxicity. Their goal is to design new drugs for treating mercury poisoning that could also be applied to any toxic metal. Their work has resulted in a new treatment for low-level arsenic poisoning that is currently undergoing clinical trial in Bangladesh and could bring improved health for tens of millions of individuals world-wide.

CENTRAL CANADA

Air Pollution from Industry Increases Risk of Parkinson's

Toronto: A CIHR-funded study is the first in North America to draw a link between Parkinson's and manganese air pollution, and suggests industry-generated pollutants pose a greater health risk than traffic-generated manganese. "This study of 110,000 people over three years supports the theory that exposure to manganese adds to the natural loss of neurons attributable to the aging process," says Dr. Murray Finkelstein of the University of Toronto, one of the study's authors.

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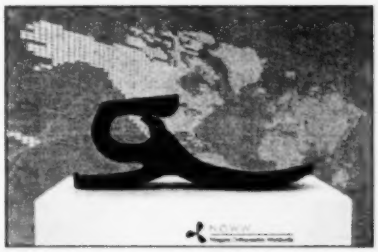
New Test Can Identify Babies with Fetal Alcohol Syndrome

Toronto: Dr. Gideon Koren of the Hospital for Sick Children is identifying newborn babies with fetal alcohol syndrome disorder by testing their fecal matter. Developed by Dr. Koren, this test was used in a recent CIHR study in Ontario's Grey-Bruce health district, where test results indicated that 3.5% of all babies tested had been exposed to heavy alcohol use. This first-of-its-kind study has prompted regional health authorities to work on a follow-up CIHR study that will provide support services and counseling for families where the baby tests positive for fetal alcohol syndrome disorder.

New Prosthetic Foot Offers Greater Mobility to Landmine Victims



St. Catharines, Kingston: A new affordable, high-energy and durable artificial foot – commercialized with CIHR assistance – is offering landmine victims greater mobility. Manufactured by Niagara Prosthetics & Orthotics (NPO) International Inc. of St. Catharines, Ontario, the "Niagara Foot" is designed for individuals with active lifestyles who live and work in rugged conditions. The device is now being tested in several countries, including El Salvador and Thailand. A group of CIHR-supported engineers from Queen's University, led by Dr. Tim Bryant, participated in the design team that included NPO, other commercial partners and the Health Technology Exchange, based in Markham, Ontario.

Ibuprofen Can Slow Lung Disease in Children with Cystic Fibrosis

Montreal: High doses of ibuprofen, when used as part of routine therapy, have proven safe and effective in slowing down lung disease in children with cystic fibrosis, concludes a landmark clinical trial funded by CIHR and the Canadian Cystic Fibrosis Foundation (CCFF). Headed by Dr. Larry Lands at Montreal Children's Hospital, McGill University, the multi-centre study monitored 142 children aged six to 18 with mild lung disease over two years. "News that ibuprofen – a relatively inexpensive treatment compared to other therapies for CF – is effective is very exciting," says Cathleen Morrison, CEO at the CCFF. Approximately one in every 2,500 children born in Canada has cystic fibrosis.

Researchers Discover How HIV Suppresses the Immune System

Dr. Éric A. Cohen

Montreal: A team led by Dr. Éric A. Cohen, a CIHR-funded researcher at the Institut de recherches cliniques de Montréal, has discovered how a specific HIV protein contributes to HIV-mediated suppression of the immune system. The HIV protein stops the cells of the immune system from dividing, thereby reducing the ability of HIV-infected persons to fight infection. In the future, these findings could lead to the development of new drugs to combat HIV.

EASTERN CANADA

Mothers Helping in the Fight against Osteoporosis

Dr. Christopher Kovacs

St. John's: Researchers at Memorial University are looking to mothers who breastfeed for new ideas on how to help rebuild bones. Dr. Christopher Kovacs is leading a CIHR-funded study to understand how mothers – who lose 5-10% of their bone mass while breastfeeding – are able to replace this lost bone density in just a few months. "Usually, adults who lose bone mass from their system for whatever reason will be stuck at that level or may have a slow, partial recovery," says Dr. Kovacs. The study could help in developing future treatments for osteoporosis.

Canadian Institutes of Health Research
160 Elgin Street, 9th Floor
Ottawa, Ontario K1A 0W9
Canada

Tel.: 613-941-2672
Toll Free: 1-888-603-4178
Fax: 613-954-1800

www.cihr-irsc.gc.ca

Upcoming Event

November 20, 2007: Sixth Annual CIHR Canadian Health Research Awards, National Gallery of Canada, Ottawa